

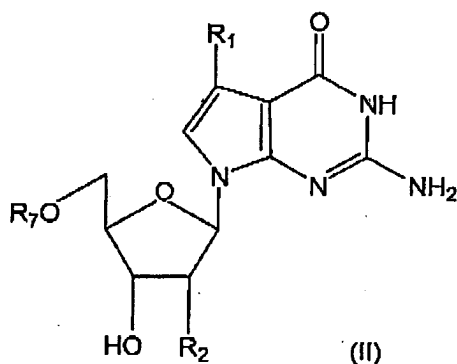
Atty. Dkt. No. 026063-1901

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently amended) Molecule comprising the following moiety:



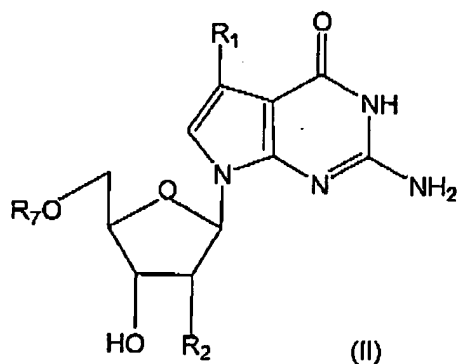
wherein R_1 is C_{1-10} alkyl group substituted by hydroxyl, amino, C_{1-4} alkoxy or halo; and R_2 is hydrogen or hydroxyl and R_7 is H or a mono-, di-, or tri-phosphate or thiophosphate thereof.

2. (Original) The molecule of claim 1, wherein said molecule is a nucleic acid polymer.
3. (Original) The molecule of claim 2, wherein said nucleic acid is DNA.
4. (Original) The molecule of claim 2, wherein said nucleic acid is RNA.

Atty. Dkt. No. 026063-1901

5. (Previously presented) Method for determining the nucleotide base sequence of a DNA molecule comprising the steps of:

incubating a DNA molecule annealed with a primer molecule able to hybridize to said DNA molecule in a vessel containing a molecule comprising the following moiety of formula (II):



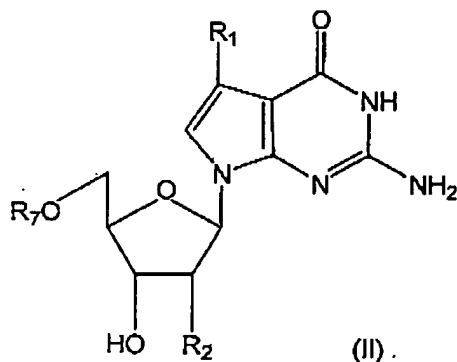
wherein R_1 is C_{1-10} alkyl group optionally substituted by hydroxyl, amino, C_{1-4} alkoxy or halo; R_2 is hydrogen or hydroxyl; and R_7 is a tri-phosphate or thiophosphate thereof; a DNA polymerase and at least one DNA synthesis terminating agent which terminates DNA synthesis at a specific nucleotide base in an incubating reaction; and

separating DNA products of the incubating reaction according to size whereby at least a part of the nucleotide base sequence of said DNA molecule can be determined.

Atty. Dkt. No. 026063-1901

6. (Currently amended) Method for elongation of an oligonucleotide sequence comprising the step of:

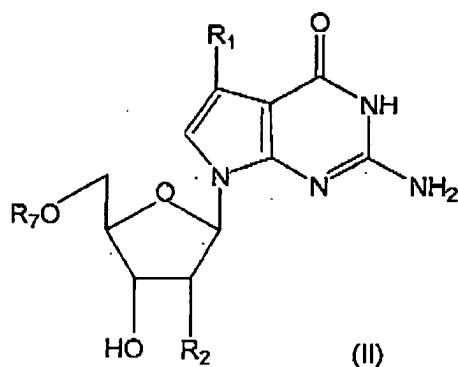
incubating an oligonucleotide sequence with a molecule comprising the following moiety of formula (II):



wherein R_1 is C_{1-10} alkyl group optionally substituted by hydroxyl, amino, C_{1-4} alkoxy or halo; R_2 is hydrogen or hydroxyl; and R_7 is a tri-phosphate or thiophosphate thereof, and a DNA polymerase such that said molecule is added to the oligonucleotide sequence.

Atty. Dkt. No. 026063-1901

7. (Currently amended) A compound of the formula (II):



wherein R₁ is C₁₋₁₀ alkyl group optionally substituted by hydroxyl, amino, C₁₋₄ alkoxy or halo; R₂ is hydrogen or hydroxy; and R₇ is H or a mono-, di-, or tri-phosphate or thiophosphate thereof, except that when R₁ is methyl R₇ is not H.

8. (Original) A compound according to claim 7, wherein R₁ is C₂₋₈ alkyl group.

9. (Original) A compound according to any of the claims 7 or 8 wherein the compound of the formula (II) is present as a triphosphate.

10. (Previously presented) 7-Ethyl-7-deaza-2'-deoxyguanosine or a mono-, di-, or tri-phosphate thereof.

11. (Previously presented) 7-Propyl-7-deaza-2'-deoxyguanosine or a mono-, di-, or tri-phosphate thereof.

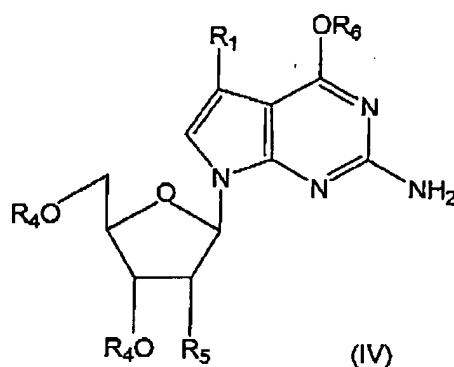
12. (Previously presented) A compound of claim 7, wherein said compound is 7-Hydroxymethyl-7-deaza-2'-deoxyguanosine or a mono-, di-, or tri-phosphate thereof.

13. (Previously presented) A compound according to any one of claim 10, 11, or 12, wherein said compound is a triphosphate.

Atty. Dkt. No. 026063-1901

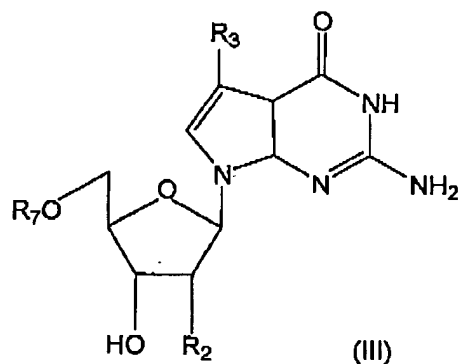
14. (Currently amended) A process for the preparation of a compound of the formula (II) wherein R_1 is C_{1-10} alkyl group optionally substituted by hydroxy, amino, C_{1-4} alkoxy or halo; R_2 is hydrogen or hydroxy; and R_7 is H or a mono-, di-, or tri-phosphate or thiophosphate thereof, except that when R_1 is methyl R_7 is not H, which comprises:

(i) the deprotection of a compound of the formula (IV):



wherein R_1 is C_{1-10} alkyl group optionally substituted by hydroxy, amino, C_{1-4} alkoxy or halo and R_4 is a protecting group, R_5 is hydrogen or a group OR_4 and R_6 is a protecting group which is the same or different to R_4 , or

(ii) when R_1 is other than methyl the reduction of a compound of the formula (III)



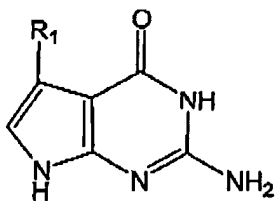
Atty. Dkt. No. 026063-1901

wherein R_2 is hydrogen or hydroxyl, R_3 is C_{2-20} alkynyl group optionally substituted by hydroxyl, amino, C_{1-14} alkyl substituted amino, C_{1-4} alkoxy or halo, and R_7 is H or a mono-di-, or tri-phosphate thereof;

(iii) and optionally thereafter preparing a mono-, di-, or triphosphate or thiophosphate.

15. (Previously presented) A nucleotide sequence containing a compound of any one of claims 10, 11, or 12.

16. (Previously presented) A deoxyribonucleic acid sequence containing a base of the formula:



(IIA)

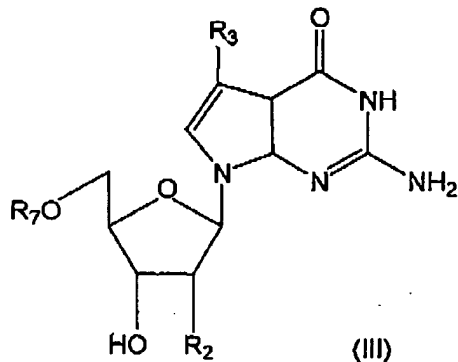
wherein R_1 is a C_{1-10} alkyl group substituted by hydroxyl, amino, C_{1-4} alkoxy or halo.

17. (Cancelled)

18. (Cancelled)

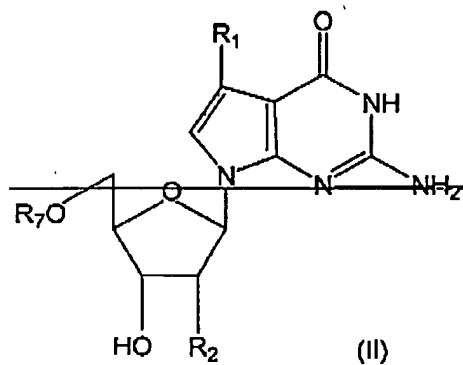
Atty. Dkt. No. 026063-1901

19. (Currently amended) A compound of the formula (III):



wherein R_2 is hydrogen or hydroxyl and R_3 is C_{2-10} alkynyl group optionally substituted by hydroxyl, amine, C_{1-4} alkyl substituted amino, C_{1-4} alkoxy or halo, and R_7 is a mono-, di-, or tri-phosphate or thiophosphate thereof.

20. (Currently amended) A compound of claim 7 of the formula (II):



Atty. Dkt. No. 026063-1901

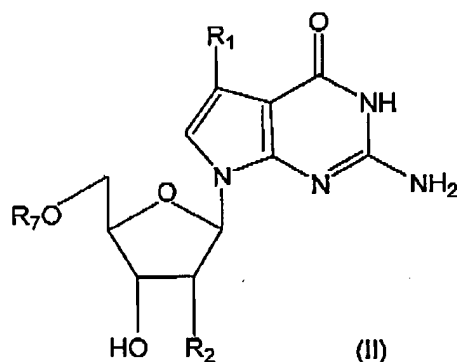
wherein R_1 is C_{1-10} alkyl group optionally substituted by hydroxyl, amino, C_{1-4} alkoxy or halo; R_2 is hydrogen or hydroxyl; and R_7 is a di-, or tri-phosphate or thiophosphate thereof.

21. (New) The method of claim 5, wherein said molecule containing a moiety of formula (II) is a compound of formula (II).

22. (New) The method of claim 6, wherein said molecule containing a moiety of formula (II) is a compound of formula (II).

23. (New) A method for determining the nucleotide base sequence of a DNA molecule comprising the steps of:

incubating a DNA molecule annealed with a primer molecule able to hybridize to said DNA molecule in a vessel containing a compound of formula (II):



wherein R_1 is C_{1-10} alkyl group optionally substituted by hydroxyl, amino, C_{1-4} alkoxy or halo; R_2 is hydrogen or hydroxyl; and R_7 is a tri-phosphate or thiophosphate thereof; a DNA polymerase, and at least one DNA synthesis terminating agent which terminates DNA synthesis at a specific nucleotide base in an incubating reaction; and

separating DNA products of the incubating reaction according to size whereby at least a part of the nucleotide base sequence of said DNA molecule can be determined.

Atty. Dkt. No. 026063-1901

24. (New) The method of claim 23, wherein said compound of formula (II) is a compound of claim 7.
25. (New) The method of claim 23, wherein said compound is 7-Ethyl-7-deaza-2'-deoxyguanosine.
26. (New) The method of claim 23, wherein said compound is 7-Propyl-7-deaza-2'-deoxyguanosine.
27. (New) The method of claim 23, wherein said compound is 7-Hydroxymethyl-7-deaza-2'-deoxyguanosine.
28. (New) The method of claim 5, wherein said molecule comprising the moiety of formula (II) is a molecule of claim 1.
29. (New) The method of claim 5, wherein said moiety of formula (II) is 7-Ethyl-7-deaza-2'-deoxyguanosine.
30. (New) The method of claim 5, wherein said moiety of formula (II) is 7-Propyl-7-deaza-2'-deoxyguanosine.
31. (New) The method of claim 5, wherein said moiety of formula (II) is 7-Hydroxymethyl-7-deaza-2'-deoxyguanosine.